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ABSTRACT

The purpose of this study was to examine differences among reflective, impulsive, fast-accurate, and slow-inaccurate fourth-grade children who were either in the high or low socioeconomic status (SES) category. The subjects were 180 fourth-grade children who were administered eight different tests during the mid-point of the school year. It was predicted that children characterized as both low SES and impulsive would have the lowest scores on measures of academic achievement. No SES x Conceptual Tempo Interaction, however, was found in the present study. The data supported the hypothesis that SES would be strongly associated with the dependent variables (eight tests) to the extent that high SES subjects would exhibit higher mean scores across all dependent measures. The findings of strong associations for SES subjects were consistent with earlier studies in the area. (Author/PC)

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Differences Associated with Conceptual Tempo and Socioeconomic Status on Academic Achievement, IQ and Internal-External Control Measures

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DIFFERENCES ASSOCIATED WITH CONCEPTUAL TEMPO
AND SOCIOECONOMIC STATUS ON ACADEMIC ACHIEVEMENT,
IQ AND INTERNAL-EXTERNAL CONTROL MEASURES

Conceptual tempo is reported to be highly associated with a child's academic success or failure (Kagan, 1965a). As measured by the Matching Familiar Figures (MFF) test (developed by Kagan, 1965), conceptual tempo is divided into two dimensions; reflection and impulsivity. The MFF is composed of a series of six pictures of familiar objects of which only one is identical to a presented standard. Ss who display long response times (latencies) and low error scores on the MFF are classified as reflective, and those who demonstrate short response times and high error scores are categorized as impulsives. Kagan (1965a) reported that conceptual tempo manifests pervasive generality across varied task situations and importantly, it is linked to some fundamental aspects of an individual's personality structure. The reflective disposition is generally believed to be the one most closely related to academic success. Messer (1970) observed that youngsters who failed a grade were significantly more impulsive, although all Ss were comparable in verbal intelligence. Kagan (1965a) reported that reading ability was negatively associated with impulsivity. Inductive reasoning, perceived as being a requisite for academic success, was also discovered to be negatively correlated with impulsivity (Kagan, Pearson, & Welch, 1966). The capacity for recall, another factor related to academic success, was found to be superior in reflective children (Kagan, 1966). The inability to sustain attention was observed as a characteristic of impulsive children (Zelniker, Jeffrey, Ault, & Parsons, 1972). Another investigation reported that teachers tended to assign higher ratings to girls who displayed long response times and to boys who made few errors (Yando & Kagan, 1968). On the basis of this evidence it appears that teachers are inclined to respond positively to girls who delay and to boys who do not make mistakes. Finally, it was reported

that most impulsive individuals do not appear to be as apprehensive or anxious about making a mistake as do those who are reflective (Kagan et al., 1966).

While there is considerable research on the reflection-impulsivity dimensions, there has been very little published research involving the two groups that do not fit the reflection-impulsivity dichotomy. Those Ss who were characterized by short response latencies and low error scores (fast-accurates) or long response latencies and high error scores (slow-inaccurates), as demonstrated on the MFF, were usually excluded from the research sample. The excluded Ss make up two groups who usually constitute approximately a third of the population when conceptual tempo is studied. Shulman, Loupe, & Piper (1968) contended that the two "extreme" groups possessed qualities that were certainly worth investigating. They argued that by focusing only upon reflectivity and impulsivity, researchers may be consistently confounding reflection and accuracy. They also noted that variables such as reading ability or inductive reasoning that correlate consistently with reflection time, may actually be related to the aspect of reflection that actually involves the capability for discrimination accuracy. Such a hypothesis cannot be validly examined by excluding the two "extreme" groups. Among the first studies that examined the two "extreme" groups were those by Ault, Crawford, & Jeffrey (1972) and Ault (1973). In the Ault et al (1972) investigation, it was reported that of the four groups (reflective, impulsive, slow-inaccurate, and fast-accurate), only reflective pupils were perceived by their teachers as being highly attentive. They also found that reflective and fast-accurate pupils were rated significantly less hyperactive than impulsive and slow-inaccurate youngsters by teachers on the Hyperactivity Scale. Ault (1973) reported that reflective and fast-accurate Ss employed more mature cognitive strategies than impulsive and slow-inaccurate Ss in problem solving tasks. A major aim of this study was to further examine the two "extreme" groups with respect to the relative importance of accuracy

and response latency.

Socioeconomic status (SES) is also a factor that is associated with a child's academic success (Battle & Rotter, 1963). According to Rist (1970), a child is labeled by the time he leaves the first grade as to whether or not he is to experience overall success or failure in the classroom. Rist postulated that the criteria for such labeling are strongly related to SES; those pupils who are positively perceived by significant others such as teachers and school administrators would more likely be of a higher SES than those not as positively viewed.

Specifically, the purpose of the present study was to examine differences among reflective, impulsive, fast-accurate, and slow-inaccurate fourth grade children who were also either in the high or low SES category. The major hypotheses were (a) conceptual tempo is associated with measures of academic achievement, school related intelligence, and internal-external control to the extent that reflective Ss and fast-accurate Ss will demonstrate higher mean scores on all measures, and (b) SES is also related to academic achievement, school related intelligence, and internal-external control measures to the degree that high SES Ss will produce higher mean scores across all dependent measures employed in the study. Eight dependent variables were investigated: scores on the Intellectual Achievement Responsibility Questionnaire (IAR), the Sense of Control Scale, teacher ratings, the standardized Metropolitan Achievement Reading Test (MART), the standardized Metropolitant Achievement Math Test (MAMT), the criterion-referenced Minimal Performance Objective Reading Test (MPORT) from the Michigan Educational Assessment Program (MEAP), the criterion-referenced Minimal Performance Objective Math Test (MPOMT) also from the MEAP, and IQ.

METHOD

Subjects

The Ss were 180 fourth grade children (99 males and 81 females) from seven different elementary schools in a midwestern city of approximately 200,000. The data were collected during the midpoint of the school year. Two schools were located in low socioeconomic regions and the remaining five were situated in middle to high socioeconomic areas. Ss were categorized by the criteria of reflection-impulsivity on the basis of the MFF test. SES classification of the areas where the schools were located were made through the use of the Michigan Educational Assessment Program's index of SES. Each S was then individually assigned to high SES or low SES categories on the basis of the McGuire-White Scale. Therefore, the actual sample was specifically high SES youngsters from high SES schools and low SES youngsters from low SES schools who were either reflective, impulsive slow-inaccurate, or fast-accurate.

Instruments and Procedure

MFF. The MFF was made up of 12 items containing pictures of familiar objects. For each item there were six variants arranged in two rows of three pictures on the bottom card of two attached 8-1/2" X 11" cards. On the top card was a picture of the standard. Only one variant per item was identical with the standard. The objective was to choose the one variant that was identical to the standard. A stopwatch was used to record the latency to the first response for each item.

Previous studies indicated that the mean cut-off for categorizing reflective and impulsive fourth grade Ss was approximately 10 secs. for the mean response latency and 10 total errors for the error score (Kagan, 1966; Kopfstein, 1973). Those values were used in this study for classifying reflectives (10 secs. or above and 9 errors or below), impulsives (below 10 secs. and 10 errors or above),

fast-accurates (below 10 secs. and 9 errors or below), and slow-inaccurates (10 secs. or above and 10 errors or above). On the MFF test, the mean response latency and error score was 15.84 secs. and 5.71 for reflectives, 7.05 secs. and 13.41 for impulsives, 14.85 secs. and 12.67 for slow-inaccurates, and 7.82 secs. and 6.87 for fast-accurates.

The MFF test was administered according to the prescribed standard procedure. For all 12 items of the MFF test, each S was asked to select the one figure from six variants that was identical to the standard. Each S was also asked to vocalize as well as point, with his finger, to the picture of his choice. The latency of each S's first response to each variant was recorded in half seconds. The stopwatch was kept from the S's view. Errors for each item were also recorded. A maximum of six errors per item was allowed. Whenever six errors were recorded, the S was shown the correct figure and E then proceeded to the next items. A score sheet for errors was also kept out of the S's view.

McGuire-White. The McGuire-White Scale (Kennedy, 1969) was used to identify and categorize high and low SES Ss. This was done by examining Ss' parental educational attainment and occupational status. Those Ss whose parents were at the upper level of the scale were classified as high SES, and those whose parents were at the lower level were designated as low SES. For instance, high SES parents were in the top two levels (1 and 2) for occupational status which included professionals, high status businessmen, large scale proprietors, and high level white collar positions, also the top two levels (1 and 2) for educational attainment which included completion of a graduate school, a professional school, or a four year college or university. Low SES Ss' parents, on the other hand, were on the bottom two levels (6 and 7) for occupational status and the bottom three levels (5, 6, and 7) for educational attainment. The various levels on the scale were used as values in assigning SES classification for Ss. The values from the levels for occupational status and educational attainment

were added together thus getting a total value that served as an index of SES. For example, values of 2 to 4 indicated high SES and values of 11 to 14 indicated low SES.

IAR. The Intellectual Achievement Responsibility Questionnaire (IAR), developed by Crandall, Katkovsky, & Crandall (1965), was designed to measure the degree of control an individual perceives regarding his own reinforcement responsibility in academic situations. In essence, the IAR assesses whether or not an individual perceives himself as his own controlling agent of reinforcements and therefore views himself as responsible for successes as well as failures. The test-retest correlation for the IAR, after a 2-month interval between the administration of the first and second tests, was .69. The following are two examples of positive and negative event items from the 34 forced choice item IAR scale.

If a teacher passes you to the next grade, would it probably be

____a. because she liked you, or

1+____b. because of the work you did?

When you have trouble understanding something in school, is it usually

____a. because the teacher didn't explain it clearly, or

1-____b. because you didn't listen carefully.

Sense of Control. The Sense of Control Scale, developed by Brookover, Gigliotti, Henderson, & Schneider (1973), is based upon the work of Coleman and others (1966). Brookover and his associates described the scale as a measure of a child's feeling of personal efficacy over his environment in relationship to his school performance. The Sense of Control Scale is a five item Likert type multiple choice scale. Hoyt's Analysis of Variance reliability coefficient for the scale was .65.

The two internal-external measures, the IAR and the Sense of Control Scale, were administered to Ss in groups. A tape recorded voice of an adult female reading the complete IAR questionnaire and Sense of Control Sacle was provided for the Ss so that they might follow along at the recorded pace if desired. The primary objective for the recording was to control for the possibility of any reading difficulties that might have been encountered by the Ss.

Teacher Ratings. Teacher ratings were gathered from the teachers of each S. The teacher ratings served as indices of classroom success as perceived by the teacher. E transformed the ratings, which were in evaluation terms, into numerical values (1 to 4). An example of the evaluation terms used by the teachers were "poor" and "unsatisfactory." Those terms had values of 1, as compared to "excellent" and "outstanding" which had values of 4. The values of 2 and 3 were generally interpreted as fair or average or good or above average respectively. The ratings were a cumulative evaluation of each S's academic achievement and social habits.

MART. Scores from the standardized Metropolitan Achievement Reading Test (MART) were compiled for each S. The MART served as one of the measures of the Ss' academic achievement.

MAMT. Scores from the standardized Metropolitan Achievement Math Test (MAMT) were also gathered. The MAMT was another measure of the Ss' academic achievement.

MPORT. Scores from the Minimal Performance Objective Reading Test (MPORT) were obtained as another measure of academic achievement. The MPORT was a criterion-referenced test that contained 23 "minimal performance objective" items.

MPOMT. Scores from the Minimal Performance Objective Math Test (MPOMT) were also compiled. Like the MPORT, the MPOMT was a criterion-referenced instrument that served as a measure of academic achievement. The MPOMT

contained 35 "minimal performance objective" items.

IQ. Ss' IQ scores, derived from the Otis-Lennon Mental Ability Test, were attained from student files. The tests were administered at the end of the previous school year. The IQ scores served as measures of school related intelligence.

Design

The design was a 2 X 4 analysis with eight dependent variables. Because of the number of dependent variables, multivariate analysis of variance (MANOVA) was the statistical technique employed.

RESULTS

The test for interaction (SES X conceptual tempo) indicated no significant interaction (multivariate $F = 1.25$, $df = 3/172$, $p < .20$). The cell means are presented in Tables 1 and 2 for high and low SES Ss classified as reflective, impulsive, slow-inaccurate, or fast-accurate.

Insert Table 1 about here

Insert Table 2 about here

Although there was no significant interaction, of interest was whether or not any significant contrasts existed within SES groups among reflective, impulsive, slow-inaccurate, and fast-accurate Ss on any of the eight dependent variables. Through the use of the Scheffe' post hoc comparison test, it was shown that differences between low SES fast-accurate and slow-inaccurate Ss on MPOMT scores and teacher ratings were significant ($p < .05$ for MPOMT and $p < .01$ for teacher ratings). Also, significant teacher ratings differences ($p < .05$) were found between low SES fast-accurate and impulsive Ss. All differences favored fast-accurate Ss. For high SES Ss, the post hoc procedure showed that reflective Ss had significantly ($p < .05$) higher teacher ratings than impulsive Ss.

The hypothesis that significant differences on the eight dependent variables were related to SES was supported (multivariate $F = 21.65$, $df = 1/172$, $p < .0001$). When univariate F tests were applied, differences on all eight observations resulted in probability values ranging from $< .0001$ to $< .0007$. The SES cell means for each dependent variable, as shown in Table 3, indicated that the high SES Ss performed significantly better on all eight measures.

Insert Table 3 about here

Conceptual tempo cell means on each dependent variable are shown in Table 4. The hypothesis that conceptual tempo was associated with the eight observation variables at the traditional levels of significance was not supported (multivariate $F = 1.42$, $df = 3/172$, $p < .09$). Although traditional levels of significance were not attained, such findings as above should not be disregarded. The interpretations and inferences at such a level, however, should be carried out with caution. One way of proceeding cautiously is to insure control by using the Bonferroni Inequality Index. The purpose of this index is to hold the experimentwise error rate at a conservative level of confidence such as .05. In using the Bonferroni Inequality Index, the level

of significance was maintained at .05 for each univariate F by dividng the number of dependent variables into .05, thereby yielding a value of .006 per variable. Of the univariate F tests, as displayed in Table 5, only teacher ratings were significant at the .006 level.

Insert Table 4 about here

Insert Table 5 about here

Because of differences found among Ss on the factor of conceptual tempo, a conservative post hoc comparison technique using the least square estimates of effects and the standard error of least squares was applied to examine contrasts among reflective, impulsive, slow-inaccurate, and fast-accurate Ss on the dependent variables. That post hoc procedure is an estimate of the group mean differences by using the standard error. Comparisons were not made on the variables of IAR and sense of control in view of the small univariate F ratios ($F = 1.88$, $p < .14$ and $F = .64$, $p < .59$ respectively). The post hoc analysis on the remaining six variables showed that reflective Ss had higher MPORT scores ($p < .05$) and higher teacher ratings ($p < .01$) than impulsive Ss. Reflective Ss also had higher MAMT scores ($p < .05$) than slow-inaccurate Ss. Fast-accurate Ss, it was found, had higher MPOMT scores ($p < .05$), MART scores ($p < .05$), IQ scores ($p < .01$), and teacher ratings ($p < .001$) than impulsive Ss. Fast-accurate Ss also compiled higher MART scores ($p < .05$), MAMT scores ($p < .01$), IQ scores ($p < .05$), and teacher ratings ($p < .05$) than slow-inaccurate Ss. No significant differences on any measures were found between reflectives and fast-accurates nor between impulsives and slow-inaccurates.

DISCUSSION

Since previous studies suggested that low SES children were more inclined toward impulsivity than high SES youngsters (Kagan, 1966; Schwebel, 1966), it was predicted that children characterized as both low SES and impulsive would have the lowest scores on measures of academic achievement. No SES X conceptual tempo interaction, however, was found in the present study. Furthermore,

Kagan (1966) did not actually test his assumption that impulsivity is related to low SES youngsters, and Schwebel (1966) based his conclusions upon scores from verbal tasks which high SES pupils traditionally perform better on than those from low SES backgrounds. Eska and Black (1971) also stated that fast response times were indicative of low SES children. In the present study, however, Ss were placed in the four conceptual tempo categories on apriori criteria instead of employing the Ss' median response latency and error scores for classification purposes. It was observed that there were 49 fast responding low SES Ss and 51 fast responding high SES Ss out of the total sample of 180 which was divided exactly in half on the basis of SES. Such results were counter to those who contended that short response latency was a disposition more common to low SES children.

The data supported the hypothesis that SES would be strongly associated with the dependent variables to the extent that high SES Ss would exhibit higher mean scores across all dependent measures. The findings of strong associations for SES with academic achievement and the greater school related success of the high SES Ss were consistent with earlier studies in the area (Havighurst & Janke, 1944; Havighurst & Breese, 1947; Pierce-Jones, 1959; Wilson, 1963). High SES Ss also displayed higher feelings of control over their school environment as shown on the IAR and Sense of Control Scale. This appears to coincide with the greater success in academic achievement that was demonstrated by the high SES Ss. The indications are that if one group experiences more school related success than another, then it follows that they should also have higher feelings of control over their school environment.

Another view of conceptual tempo was gained by including fast-accurate and slow-inaccurate Ss in the sample. The overall contention resulting from previous research was that reflective pupils, for the most part, demonstrated higher levels of academic achievement (Kagan, 1965a, 1965b, and 1966;

Kagan, Pearson, & Welch, 1966a and 1966b; Schwebel, 1966; Yando & Kagan, 1968; Messer, 1970). However, the results of the present study indicated that the reflective Ss were not the consistent high performers. The high SES slow-inaccurate Ss achieved highest mean teacher ratings and MPOMT scores, and the high SES fast-accurates displayed the highest mean scores on the MART, IQ, and equalled the mean score of the high SES reflective Ss' on the MAMT. For low SES Ss, the fast-accurates were the consistent high performers within that group on each of the dependent measures.

One of the more surprising findings was in the area of teacher ratings. Although the high SES slow-inaccurate Ss compiled the highest mean teacher rating for the entire sample, the opposite was observed for the low SES slow-inaccurate Ss who compiled the lowest mean teacher rating. The differences found between high SES slow-inaccurates and low SES slow-inaccurates might be explained in terms of teacher expectations (Rist, 1970). The teacher may perceive the high SES slow-inaccurate youngster as trying his hardest to succeed and hence rewards him for his efforts. The high SES slow-inaccurate child may also be perceived as non-threatening, for he does not display traits of high activity that is attributed to impulsive children, nor does he quickly provide the correct answer to a question or problem as might a fast-accurate child. He might appear to be more dependent upon the teacher than either fast-accurate or reflective children, and this might also work in his favor in a relationship with the teacher. On the other hand, the low SES slow-inaccurate child may be perceived in terms of just being "slow" i.e. a slow learner in most instances, and therefore, is evaluated accordingly. The low SES fast-accurate child, as opposed to his slow-inaccurate counter part, is probably perceived as the "beacon of light" in a disadvantaged setting who is going to be successful and overcome the possible detrimental effects of a low socioeconomic background, and therefore he attains high teacher evaluations that far surpass the other

Ss within the low SES group.

The results suggested that of the two components that comprise conceptual tempo, response time and accuracy, that accuracy is the more important factor in relation to academic achievement. In earlier studies, the primary suggestion was to modify the response latency of impulsive children by increasing their response latency, therefore making them reflective (Kagan, Pearson & Welch, 1966b; Yando & Kagan, 1968). However, the present study is in accord with more recent research which shows that slowing down response speed has little or no effect on performance (Zelniker, Jeffrey, Ault & Parsons, 1972).

In order to further examine the importance of accuracy, a Scheffe' post hoc comparison procedure was used to contrast accurate Ss (reflectives and fast-accurates) with inaccurate Ss (impulsives and slow-inaccurates). A comparison was then made between fast Ss (impulsives and fast-accurates) and slow Ss (reflective and slow-inaccurate). Significant differences ($p < .05$) were attained on every dependent measure except the MART when accurate and inaccurate Ss were contrasted, but no significant differences were found when fast and slow Ss were compared. The results from the post hoc procedure suggested that accuracy was by far the more significant factor and that response latency was of little importance when related to measures of academic achievement.

The data indicated that overall, the high SES child met with relative success regardless of his speed in responding or accuracy as determined by the MFF test. The single exception was teacher ratings, which favored accurate Ss. The important factor for the high SES child appeared to be his high socioeconomic level, not the accuracy or response latency components of conceptual tempo. For the low SES child, on the other hand, the accuracy component of conceptual tempo appeared to be highly related to academic achievement. Therefore, it seems that not only is it to the low SES child's advantage to be accurate, but it would be best if he was fast as well. Of the high SES group, the only Ss who demonstrated consistently

lower performances were the impulsives, as predicted, and in that respect a slower response time may be related to academic achievement in a high SES setting. Nevertheless, it should be noted that only on teacher ratings were there significant differences within the high SES group.

Differences associated with conceptual tempo on the two internal-external control measures were not significant. The results suggested that an individual's conceptual tempo has little or no effect on how he perceives the control he has over his school environment. However, the data indicated that low SES fast-accurates displayed IAR scores ($\overline{X}$ = 23.92) that were in the same range ($\overline{X}$ = 22.77 to $\overline{X}$ = 24.97) as the high SES Ss. Such results obtained from low SES fast-accurates might be expected. Since they have the highest attained standards across all measures for the low SES group, it was not surprising that the low SES fast-accurates would demonstrate relatively high feelings of control over their school environment.

In future investigations of conceptual tempo, standards should be established prior to the administration of instruments such as the MFF test, that serve to categorize the conceptual tempo of subjects. Efforts should be made to set up norms for conceptual tempo dimensions at various developmental stages that would act as guidelines of conceptual tempo regardless of age. This should provide consistency in reporting conceptual tempo dimensions of subjects. Without any consistency established for classifying conceptual tempo, situations may and have probably already occurred where one study classifies certain Ss as impulsive, whereupon another study categorizes the same Ss as reflective. This may occur because the median response latency and error scores (which in all likelihood varies across samples) for each specific sample serves as the cut-off point in designating conceptual tempo dimensions. With such occurrences, valid replications would be difficult to accomplish. For further research, past studies that had been carried out with only reflective and impulsive subjects in the

sample should be replicated but with the addition of fast-accurates and slow-inaccurates as subjects. Moreover, it is suggested that all future research on conceptual tempo include fast-accurate and slow-inaccurate subjects in the research sample. Examining and determining the cognitive strategies used by subjects in the four conceptual tempo groups in relation to problem solving and information processing should also prove valuable. Stringent efforts should be made to reveal whether or not various modes of instruction when paired with an individual's conceptual tempo, do in fact have any beneficial effects on the individual's learning capabilities. Finally, if attempts to modify conceptual tempo are continued, the primary focus should be upon improving the accuracy component as opposed to increasing response latency.

TABLE 1

Cell Means For High SES Reflective, Impulsive, Slow-Inaccurate, And Fast Accurate Ss.

Standard Deviations Are In Parentheses.

High SES

	MPORT	MPOMT	MART	MAMT	IQ	TR	IAR	SC
Reflective	17.76 (5.77)	31.14 (5.27)	4.65 (1.46)	4.76 (1.07)	115.24 (10.82)	3.09 (.90)	24.97 (3.77)	16.07 (2.59)
Impulsive	14.29 (7.24)	29.60 (6.58)	4.43 (1.70)	4.40 (1.08)	113.43 (21.98)	2.49 (.83)	22.77 (3.79)	15.43 (2.91)
Slow-Inacc	16.22 (7.40)	32.00 (2.40)	4.49 (1.77)	4.38 (1.52)	110.44 (11.14)	3.22 (.83)	24.11 (4.11)	14.67 (2.35)
Fast-Acc	16.35 (7.89)	30.53 (5.92)	5.06 (1.93)	4.75 (1.05)	115.82 (15.71)	3.00 (.90)	24.06 (3.77)	15.71 (2.39)

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TABLE 2

Cell Means For Low SES Reflective, Impulsive, Slow-Inaccurate, And Fast-Accurate Ss. Standard Deviations Are In Parentheses.

Low SES

	MPORT	MPOMT	MART	MAMT	IQ	TR	IAR	SC
Reflective	8.88 (7.67)	23.31 (9.34)	2.91 (1.09)	3.34 (1.05)	92.00 (7.56)	2.54 (.84)	21.50 (3.50)	13.46 (2.83)
Impulsive	5.97 (6.10)	21.94 (8.45)	2.65 (.66)	3.02 (.61)	85.86 (8.21)	2.28 (.69)	21.86 (3.15)	13.69 (2.59)
Slo-Inacc	6.87 (7.96)	19.27 (8.03)	2.47 (.93)	2.64 (.84)	90.73 (5.98)	2.03 (.81)	20.27 (3.97)	13.27 (2.12)
Fast-Acc	11.47 (7.62)	27.77 (7.35)	3.59 (1.62)	3.76 (1.08)	102.23 (12.06)	3.08 (.70)	23.92 (5.01)	14.31 (3.12)

TABLE 3

The Means For High And Low SES Ss On The Eight Observation Measures.

Standard Deviations Are In Parentheses.

	MPORT	MPOMT	MART	MAMT	IQ	TR	IAR	SC
High SES	15.99 (6.78)	30.51 (5.62)	4.62 (1.67)	4.58 (1.20)	114.20 (17.34)	2.85 (.86)	23.86 (3.92)	15.61 (2.65)
Low SES	7.76 (7.08)	22.73 (8.48)	2.83 (.97)	3.15 (.84)	90.81 (8.21)	2.43 (.78)	21.79 (3.66)	13.64 (2.66)

TABLE 4

The Means For Reflective, Impulsive, Slow-Inaccurate, And Fast-Accurate Ss On The Eight Observation Measures.

Standard Deviations Are In Parentheses.

	MPORT	MPOMT	MART	MAMT	IQ	TR	IAR	SC
Reflective	13.56 (6.67)	27.44 (7.19)	3.83 (1.28)	4.09 (1.06)	104.30 (9.28)	2.83 (.87)	23.33 (3.64)	14.84 (2.70)
Impulsive	10.07 (6.66)	25.72 (7.53)	3.53 (1.17)	3.70 (.84)	99.45 (15.00)	2.38 (.76)	22.31 (3.46)	14.55 (2.75)
Slo-Inacc	10.37 (7.75)	24.04 (5.92)	3.23 (1.31)	3.29 (1.09)	98.12 (7.91)	2.48 (.82)	21.71 (4.02)	13.79 (2.20)
Fast-Acc	14.23 (7.77)	29.33 (6.53)	4.42 (1.80)	4.32 (1.30)	109.90 (14.13)	3.03 (.81)	24.00 (4.25)	15.10 (2.71)

TABLE 5

Univariate Analysis Of Variance For Each Dependent Variable

As Associated With Conceptual Tempo

Variable	Mean Square Between	Univariate F	p Less Than
IQ	584.88	3.28	.02
MART	4.85	2.52	.06
MAMT	3.79	3.44	.02
MPORT	146.50	2.96	.03
MPOMT	93.31	1.77	.15
TR	3.57	5.40	.002
IAR	26.46	1.88	.13
SC	4.55	.64	.59

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